

Questioned Documents Unit (QDU)

Procedures for Conducting Checkwriter Examinations

1 Scope

These procedures will be used by a forensic document examiner to conduct examinations and comparisons of impressions from traditional mechanical checkwriters for purposes of classification or determination of origin.

2 Equipment/Materials/Reagents

- Fostec 150 watt tungsten halogen light, or comparable equipment
- Hand magnifier (minimum magnification, 4X)
- Leica stereomicroscope (minimum magnification, 6.3X), or comparable equipment
- Checkwriter standards and reference materials

3 Standards and Controls

Not Applicable.

4 Sampling

Not Applicable.

5 Procedures

5.1 Examine original impression(s) using lighting and magnification sufficient to allow fine detail to be distinguished and determine whether the mechanical checkwriter utilizes liquid ink or a ribbon mechanism.

5.1.1 Characteristics of liquid ink mechanical checkwriter impressions include:

- Clear solid inking with well-defined edges when viewed microscopically.
- Excessive ink deposits may be present.
- Possible irregular inking of the impression.

5.1.2 Characteristics of ribbon mechanical checkwriter impressions include:

- Clearly displayed texture of the ribbon on the impression when viewed microscopically.

- Significantly less defined edges to the impression.
- Possible ribbon shift, impression voids, and blemishes.

5.2 Using lighting and magnification sufficient to allow fine detail to be distinguished, examine the prefix, printing element, slugs, payee perforator, and perforations utilized in the production of the checkwriter impression(s). Using photography or drawings to document preliminary notes, **Redacted**

5.3 For checkwriter classification purposes, evaluate the information obtained to determine the manufacturer of the machine/slugs that were used to create the impression(s) by comparing the impression(s) to checkwriter standards and reference materials.

5.4 For comparisons with other impressions (questioned or known) or a known machine, analyze the impression(s) and/or machine components and compare the class characteristics and individual characteristics.

5.4.1 Examples of class characteristics include:

- Impression format
- Printing element characters
- Inking system
- Payee perforator

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5.5 Evaluate similarities, differences, limitations, and their significance individually and in combination to determine if the impression(s) are of common origin and/or if the questioned impression(s) was made by the known machine.

5.6 Examination records must include any reference information, standards, photographs, printouts, drawings, or identifying characteristics that support your conclusions.

5.7 Conclusions

5.7.1 Conclusions when determining whether a particular checkwriter prepared a questioned document(s):

- **Identification** – A determination that the questioned impression(s) were prepared by a particular checkwriter, due to agreement in individual

characteristics. No differences that would preclude an identification were observed.

- **May Have Prepared** – A less than definitive determination that a particular checkwriter was used to prepare the questioned impression(s). The comparison between the checkwriter and the questioned impression(s) reveals no significant, reproducible, or inexplicable differences. There is significant agreement in all observable aspects of the results; however, limitations are present. This opinion requires explanation of the limiting factors.
- **No Conclusion/No Determination** – No determination can be reached whether a particular checkwriter was or was not used to prepare the questioned impression(s). There may be correspondence in class characteristics, however, there are factors that significantly limit meaningful examinations. This opinion requires explanation of the limiting factors.
- **May Not Have Prepared** – A less than definitive determination that a particular checkwriter was not used to prepare the questioned impression(s). The comparison between the checkwriter and the questioned impression(s) reveals reproducible and inexplicable variations. Inconsistencies are observed, but limitations are present. This opinion requires explanation of the limiting factors.
- **Elimination** – A determination that a particular checkwriter was not used to prepare the questioned impression(s) due to sufficient disagreement in class and/or individual characteristics. Differences are observed.

5.7.2 Conclusions when determining whether two or more document(s) share a common origin:

- **Share a Common Origin** – A determination that the items were prepared by the same checkwriter due to agreement in individual characteristics. No differences that would preclude a definite determination were observed.
- **May Share a Common Origin** – A less than definitive determination that two or more checkwriter impressions originated from a common source. The comparison of the impressions reveals no significant, reproducible, or inexplicable differences. There is significant agreement in all observable aspects of the results; however limitations are present. This opinion requires explanation of the limiting factors.
- **No Conclusion/No Determination** – No determination can be reached whether the checkwriter impressions did or did not originate from a common source. There may be correspondence in class characteristics between the

items, however, there are factors that significantly limit meaningful examinations. This opinion requires explanation of the limiting factors.

- **May Not Share a Common Origin** – A less than definitive determination that two or more checkwriter impressions did not originate from a common source. The comparison of the impressions reveals reproducible and inexplicable variations. Inconsistencies are observed, but limitations are present. This opinion requires explanation of the limiting factors.
- **Do Not Share a Common Origin** – A determination that the items were not prepared by the same checkwriter due to sufficient disagreement in class and/or individual characteristics. Differences are observed.

6 Calculations

Not Applicable.

7 Measurement Uncertainty

Not Applicable.

8 Limitations

The following factors could affect the examination process and/or the results rendered:

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- Lack of a sufficient quantity of questioned and known items.
- Prior destructive forensic examinations such as latent print processing.
- Lack of/limited individual characteristics

9 Safety

Standard precautions should be followed for the handling of chemical and biological materials. Examiners/analysts may refer to the *FBI Laboratory Safety Manual* for additional guidance. Chemical and biological materials that are hazardous or potentially hazardous will be maintained and examined in specifically designated areas within the QDU space.

10 References

FBI Laboratory Safety Manual

ASTM E 2285 "Standard Guide for Examination of Mechanical Checkwriter Impressions",
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Science Publishing Co., New York, NY, 1982.

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of Forensic Document Examiners, Inc., Houston, Texas, 1991.

Rev. #	Issue Date	History
3	03/03/15	Updated Header to read "QDU Standard Operating Procedures Manual". Section 2 changed "equivalent" to "comparable equipment" and added fourth bullet. Deleted Section 4 "Calibration" and renumbered accordingly. Section 5.7.1 added. Section 5.7.2 added "Conclusions when determining whether two or more document(s) share a common origin:" and reworded conclusions. Sections 5.7.2 and 8 changed "identifying" and "individualizing" to "individual". Section 7 changed "Uncertainty of Measurement" to "Measurement Uncertainty". Section 9 hyphenated "Nonoriginal" in first bullet and added "/limited" to last bullet.
4	03/01/18	Deleted "Keyence VHX-2000E Digital Microscope"

Redacted - Signatures on File

Approval

Questioned Documents
 Unit Chief

Date: 02/28/2018

Questioned Documents
 Technical Leader

Date: 02/28/2018

QA Approval

Quality Manager

Date: 02/28/2018